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Science on Saturday
Program Survey

Lawrence Livermore National Laboratory
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Order from Chaos: The Birth of the Solar System

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Planetary scientists have been making great progress in understanding the process of solar system formation. Some of their results are very surprising. Test your knowledge by circling True or False next to each statement below. Revisit your answers at the end of the presentation to see how well you did.

T F Nail polish remover is found in interstellar space.

T F Table salt is found in interstellar space.

T F The Earth would be better off without the Moon.

T F Life started only once on earth.

T F You can see about 3000 stars in the sky on a dark night.

Listen carefully to the presentation to answer the questions during the talk. You may need these answers to get credit from your teacher.

1. What is humanity's fishbowl?

2. How many light years away is our biggest neighbor galaxy?

3. What 2 materials are the most common in a molecular cloud.

4. What is the coldest place in the universe? On Earth?

5. What might have triggered the formation of our solar system?

6. Why do new stars have jets?

7. What 3 things are special about our fishbowl (solar system)?

8. How do Jupiter and Saturn protect life on Earth?

9. How does the Moon help life on Earth?

10. How many times did life arise on Earth?

11. What is one difficulty about seeing planets orbiting other stars?

12. What will the NASA Comet Clipper do?

Dr. John Bradley

Research Chemist, Lawrence Livermore National Laboratory
Dr. John Bradley was born in New Zealand. He came to the US in 1978 and obtained a PhD from Arizona State University in 1982. Prior to joining LLNL as Director of the Institute of geophysics and Planetary Physics he was an Adjunct Professor in the School of materials Science and Engineering at Georgia Institute of Technology and partner in a scientific consulting firm in Atlanta. Dr Bradley has spent much of the past 20 years engaged in research funded by NASA on extraterrestrial materials like meteorites and interplanetary particles. He was a scientific advisor to NASA on the Stardust mission that returned to earth in January 2006 carrying the first sample collected from the tail of a comet, and he is currently a member of the science team planning a mission to actually land on a comet, scoop up several hundred grams of ice and dust and return them to earth ~10 years later. The origin of life will be a major focus of this second mission to a comet. John is a Fellow of the Meteoritical Society and a member of the Materials Research Society, American Physical Society, and the American Association for the Advancement of Science.

Dan Burns

Earth and Space Science and AP Physics Teacher Los Gatos High School
Dan Burns has been teaching Earth and Space Science and AP Physics at Los Gatos High School for 12 years. He is the LGHS science department chair and past president of the Northern California/Nevada American Association of Physics Teachers. He has worked on curriculum development and teacher workshops for the SETI Institute, the USGS, NASA, AAPT, and San Jose State University. He has a BS in Aerospace Engineering from the University of Illinois. Prior to becoming a teacher Dan was a senior research specialist for the Lockheed Missiles and Space Company. Dan is an avid amateur astronomer and astrophotographer and has had several pictures published in astronomy magazines.